FACT SHEET

Proposed Rule - Protection of Stratospheric Ozone: Listing of Substitutes for Refrigeration and Air Conditioning and Revision of the Venting Prohibition for Certain Refrigerant Substitutes

RIN 2060-AS04

ACTION

This rulemaking lists additional climate-friendly, flammable substitutes as acceptable, subject to use conditions, in new equipment in six end-uses. The updates to the listings are as follows:

- Ethane in very low temperature refrigeration and in non-mechanical heat transfer
- Isobutane in retail food refrigeration (stand-alone commercial refrigerators and freezers) and in vending machines
- Propane in household refrigerators, freezers, or combination refrigerators and freezers, in vending machines, and in room air conditioning units
- The hydrocarbon blend R-441A in retail food refrigeration (stand-alone commercial refrigerators and freezers), in vending machines and in room air conditioning units
- HFC-32 (difluoromethane) in room air conditioning units

The proposed rule contains use conditions to address potential flammability risks of the refrigerants. The proposed use conditions include limits on charge size, use in newly manufactured equipment only, use of colored pipes and/or hoses, and meeting relevant Underwriters Laboratories standards including, among other things, use of warning labels.

In addition, the proposed rule would allow for the release of the first four refrigerants during service, maintenance, repair and disposal based on current evidence that their release would not pose a threat to the environment.

POTENTIALLY AFFECTED ENTITIES

This rulemaking provides additional options for manufacturers of refrigeration and air conditioning equipment. Technicians servicing or disposing of such equipment are also affected by this rule and would have greater flexibility given a proposed exemption from the Clean Air Act's prohibition on venting, release or disposing of refrigerant during maintaining, servicing, repairing, or disposing.

BACKGROUND

- Under the Significant New Alternatives Policy (SNAP) program (Section 612 of the Clean Air Act), EPA reviews alternatives to ozone-depleting substances (ODS) to find substitutes that pose less overall risk to human health and the environment.

- This rule responds to the Climate Action Plan's call for the Environmental Protection Agency to "use its authority through the Significant New Alternatives Policy Program to encourage private sector investment in low-emissions technology by identifying and approving climate-friendly chemicals…"

- These provisions are designed to allow for additional climate-friendly alternatives and do not impose regulatory burdens beyond use conditions designed to ensure safe handling of flammable compounds. The substitutes are not ozone-depleting, and they have lower global warming potentials than currently-used refrigerants.

- EPA previously issued a final rule with the same or similar conditions on the use of flammable refrigerants in household and commercial stand-alone refrigerators and freezers (December 20, 2011; at 76 FR 78832, codified at Appendix R of Subpart G of 40 CFR Part 82).

- Hydrocarbons are already widely used as refrigerants in refrigerators and freezers in Europe and Asia, and to a lesser extent, in room air conditioners. Because hydrocarbon refrigerants have zero ozone depletion potential (ODP) and very low global warming potentials (GWPs) compared to most other refrigerants, many companies recently have expressed interest in using hydrocarbons in the United States. Also, some companies have reported improved energy efficiency with hydrocarbon refrigerants.

- There is interest in use of HFC-32 in residential air conditioning systems and heat pumps because it has a GWP of 675, which is lower than the GWPs of currently-used refrigerants for this end-use (GWPs of 1,500 to 4,000). It also has milder flammability than hydrocarbon refrigerants.

- Under Section 608 of the Clean Air Act, it is illegal to intentionally vent or release refrigerants during the maintaining, servicing, repairing or disposing of appliances or industrial process refrigeration. EPA has authority under the Clean Air Act to issue exemptions to this "venting prohibition" where the Agency determines that venting, releasing or disposing of a substitute refrigerant does not pose a threat to the environment.

- EPA has analyzed the potential environmental impacts of allowing release of four of the five refrigerants into the atmosphere (all except HFC-32, because EPA has previously determined it has sufficient environmental impact to maintain the venting prohibition). Based on this analysis and other information, EPA expects that release of ethane, isobutane, propane, and the hydrocarbon blend R-441A in the limited amounts from the proposed end-uses will not pose a threat to the environment.